

Claims

1. Nonreturn valve (5) between a first pressure side (26) and a second pressure side (27) having an external
5 thread (11) which is formed on a first cylindrical portion (8) of a cylindrical valve housing (6) and can be screwed into a threaded bore (1) of a housing (2) of a hydraulic assembly,
characterised
10 in that a passage duct (39) for a hydraulic fluid flow is formed, between a side wall of the threaded bore (1) and a first region of material removal (16) of the lateral surface (10) of the cylindrical valve housing (6), in at least one angular segment (α_1 , α_2 , α_3 and
15 α_4) of the valve housing (6).
2. Nonreturn valve according to Claim 1,
characterised
in that the cylindrical valve housing (6) comprises
20 two, three or four equal-sized first regions of material removal (16) formed at equidistant angular intervals on the lateral surface (10) of the cylindrical valve housing (6).
- 25 3. Nonreturn valve according to Claim 2,
characterised
in that the two, three or four equal-sized first regions of material removal (16) on the lateral surface (10) of the valve housing (6) are continued in
30 a second cylindrical portion (9) adjoining the first cylindrical portion (8) provided with the external thread (11).

4. Nonreturn valve according to Claim 3,
characterised

in that in the second cylindrical portion (9) the first regions of material removal (16) and
5 correspondingly two, three or four further, second regions of material removal (17), which are equal in size to the first regions of material removal (16) and constructed in the angular segments ($\alpha 5$, $\alpha 6$, $\alpha 7$ and $\alpha 8$) of the valve housing (6) which are situated
10 between the angular segments ($\alpha 1$, $\alpha 2$, $\alpha 3$ and $\alpha 4$) of the valve housing (6) which are provided with the first regions of material removal (16), are formed as engagements for a tool for screwing the nonreturn valve (5) into the threaded bore (1).

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5. Nonreturn valve according to Claim 4,
characterised

in that the first and second regions of material removal (16, 17) constitute levelled regions and form
20 a square, hexagonal or octagonal profile for a tool for screwing the nonreturn valve (5) into the threaded bore (1).

6. Nonreturn valve according to one of Claims 1 to 5,
25 **characterised**

in that the threaded bore (1) merges, at the level of the end, facing towards the first pressure side (26), of the valve housing (6) screwed fully into the threaded bore (1), via a transition (4) into a
30 continuation bore (3), the diameter of which is designed smaller than the diameter of the threaded bore (1).

7. Nonreturn valve according to Claim 6,
characterised
in that the transition (4) has a conical form.
- 5 8. Nonreturn valve according to Claim 6 or 7,
characterised
in that the hydraulic fluid flow between the valve
housing (6) and the transition (4) between the
threaded bore (1) and the continuation bore (3) is
10 interrupted by the valve housing (6) pressing against
the transition (4).
9. Nonreturn valve according to one of Claims 1 to 8,
characterised
15 in that the nonreturn valve (5) contains a valve seat
(21) which is formed by a conical transition (40) from
a first portion (19) of smaller inside diameter to a
second portion (20) of larger inside diameter of a
cutout (18) of the hollow-cylindrical nonreturn valve
20 (5).
10. Nonreturn valve according to Claim 9,
characterised
in that the first portion (19) of the cutout (18)
25 forms a first inflow opening (28) of the nonreturn
valve (5).
11. Nonreturn valve according to Claim 10,
characterised
30 in that the nonreturn valve (5) has a second opening
(31) at the end of the valve housing (6) opposite the
first inflow opening (28).

12. Nonreturn valve according to Claim 11,
characterised
in that the second portion (20) of the cutout (18)
contains a spherical valve body (22) which is pressed
5 against the valve seat (21) by the spring force of a
prestressed spring (25) likewise situated in the
second portion (20) of the cutout (18) and the
pressure difference between the pressure prevailing at
the second opening (31) and the pressure prevailing at
10 the first inflow opening (28).
13. Nonreturn valve according to one of Claims 9 to 12,
characterised
in that the hollow-cylindrical nonreturn valve (5) has
15 in the second portion (20) of the cutout (18) a
plurality of through-openings (38) which are
distributed in equidistant angular segments (β) on a
circular line which is concentric with the
longitudinal axis (37) of the nonreturn valve (5) and
20 lies on the inner lateral surface of the valve housing
(6), these through-openings opening into a region (39)
of the second pressure side (27) of the threaded bore
(1), which region is situated on the side of the first
cylindrical portion (8) facing towards the first
25 pressure side (26).
14. Nonreturn valve according to Claim 12,
characterised
in that the spring (25) is prestressed between a first
30 and second spring plate (23, 24).
15. Nonreturn valve according to Claim 14,
characterised

in that the first and second spring plate (23, 24) have the same geometry.

16. Nonreturn valve according to Claim 14 or 15,
5 **characterised**
in that the spring force of the prestressed spring (25) is transmitted to the valve body (22) via the first spring plate (23).
- 10 17. Nonreturn valve according to one of Claims 14 to 16,
characterised
in that the second spring plate (24) is supported against a snap ring (34) guided in an annular groove at the inner lateral surface of the hollow-cylindrical
15 valve housing (6).
18. Nonreturn valve according to one of Claims 14 to 17,
characterised
in that the first and second spring plate (23, 24)
20 each has an inner bore (32) for supplying the pressure prevailing at the second opening (31) to the valve body (22).